

I cannot conclude this paper without reminding you that enteritis, unlike catarrh of the nose, stomach, or large bowel, which may be treated by irrigation, must be treated with drugs. And to do this successfully, they must be sufficiently active to pass unimpaired through the stomach and exert a healing influence upon the mucous membrane below the pylorus.

It may not be considered untimely to emphasize the importance of hygienic and prophylactic measures in diet, es-

pecially in the case of children. I think you will agree with me in saying that improvement in this direction will go a long way in the development of healthy bodies. And, in view of the frequent occurrence of ptomaine poisoning and its consequent danger to health, the profession should not hesitate to warn their patrons of the risk incurred from eating exposed or canned meats when there is any suspicion whatever as to quality.

INTESTINAL OBSTRUCTION IN CHILDREN

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The subject of Intestinal Obstruction in Children, is at present, attracting unusual attention among Pediatricians, Surgeons and the general Profession. In no other disease is the life of your patient so absolutely dependent upon early diagnosis and prompt therapeutic measures, for a few hours delay in recognizing this condition may mean death to your patient.

Intestinal Obstruction is, strictly speaking, a surgical disease, and yet, many cases are cured by prompt and well-directed therapeutic agents.

It is not the purpose of this paper to discuss the surgical side of this subject, so much as it is to review the etiology, symptoms and treatment as they confront the general practitioner from day to day in his work among children.

There are many conditions that interfere with the passage of the bowel contents along the lumen, and careful observers are appreciating more and more the difficulty of recognizing these conditions.

For the purpose of this discussion, let

us divide the causes of intestinal obstruction into *congenital* and *acquired*.

Congenital malformation may be found in any portion of the intestinal tract, but it is most frequently seen at or near the outlet or in the region of the duodenum. Silverman states that 42 per cent of the cases of congenital malformation are in the duodenum. Any occlusion near the outlet is either due to an imperforate anus, or atresia of the lower portion of the rectum. The treatment of these conditions is purely surgical.

Congenital defects of the bowel occur more frequently in boys than in girls and in every 10,000 births one deformity in the rectal region occurs. These malformations are due to imperfect or arrested development of this part of the gut during fetal life. When we are greeted with complete obstruction of the rectum in a newly born infant, if not a surgeon, we must refer the case to a surgeon at once for, unless egress is given to the meconium and feces, the child will live only a few days at most,

although Shipman reported a case that lived three months without discharging from the bowels (Boston Medical and Surgical Journal, October, 1838.)

Chief among the acquired causes of this subject is Intussusception. Persistent vomiting with bile-stained vomitus, marked prostration with low temperature, stools of white mucous streaked with blood or sometimes with slight hemorrhage, all characterized by sudden and severe onset, whether we are able to outline a tumor or not, we are in the majority of cases confronted with a case of intussusception.

The pathognomonic symptoms of intussusception manifest themselves in the following order: Sudden screaming in a previously healthy infant, followed by vomiting and the passage of stools containing blood and mucous without any fecal material.

One of the reasons why intussusception occurs more frequently in children than in adults is because, in children, the mesentery and the mesenteric attachment of the child's gut is much longer than that of the adult gut proportionately. The child's gut is also subject to reflex spasms.

TREATMENT:—The ileocecal valve is the point at which intussusception most frequently occurs, although it may attack any portion of the small intestines. Acute intussusception is exceedingly dangerous and, when it is not properly relieved, a fatal termination may be expected. In acute cases all foods should be discontinued except those administered in the form of enemata. When the patient is seen early and there are no urgent manifestations, an effort should be made to reduce the invagination by very gentle friction massage or by changing the patient from one position to another, with the

hope that the telescoped piece of gut will slip out.

When the condition of the patient is aggravated and manipulation is rendered impracticable because of the rigidity of the abdominal muscles and enterospasm, much can be done to counteract these conditions by the administration of copious high warm water enemata. Exceedingly small doses of opium and belladonna administered in combination will tend to sooth the muscular fibers of the intestines and cause them to relax, thereby diminishing intestinal irritation and enabling the physician to manipulate the diseased bowel with greater ease.

Since the only thing to be considered in these cases is to save life, too much time should not be given to these non-operative measures, after it becomes evident that the condition is not improved by them, but the case should be referred as quickly as possible to a competent surgeon for operative interference, bearing always in mind that the great majority of these cases is strictly surgical from the beginning.

Fecal impaction is among the common causes of intestinal obstruction. This condition is brought about largely by the character of food given the child and by the presence of a stricture which interferes with the fecal current. Except in conditions where a stricture exists, massage and injections of molasses and water, equal parts, are very effective as therapeutic measures.

Complete obstruction of the bowel may occur in certain cases as the result of irritation caused by the presence of worms. They block the intestinal lumen, either by becoming matted together in a bulky mass or in conjunction with the feces. After the worms are dislodged by the proper therapeutic

agents, irritation of the colon with warm normal salt solution will assist wonderfully in removing the mass. I recall a mass removed from a child I treated, the actual count of which was 140 worms.

Among the very common causes of bowel obstruction might be mentioned Acute Peritonitis, Tubercular Peritonitis, Appendicitis, Strangulated Hernia, foreign bodies and an inflammatory involvement of Meckel's Diverticulum. There are many other conditions that interfere with the passage of the bowel contents along its lumen.

The diagnosis of special conditions leading to intestinal obstruction has been partially referred to above.

It is only the purpose of this paper to emphasize some of the leading symptoms of this subject, which will enable us to arrive quickly at a correct diagnosis in order that our patient may enjoy the privilege of a fighting chance for life.

The symptoms in each case will depend largely upon the etiology in each case. This makes it impossible to name symptoms which will fit every case; hence, we shall mention those manifestations which are more or less present in the majority of cases. Acute Intestinal Obstruction in children is characterized in nearly all cases by suddenness of onset, vomiting followed by constipation.

Dr. William A. Downes of New York (Journal of American Medical Association, June 27, 1914) reports twenty-two cases of pyloric obstruction in infants. He states that vomiting was the first symptom in every case. The vomiting was projectile and usually occurred after each feeding. Constipation was marked in every case.

In subacute cases following stricture,

peritonitis, etc., the initial symptoms are not pronounced as in acute cases but vary according to the pathological condition in each case. However, vomiting and constipation are, as a rule, the leading symptoms in all cases.

The case I shall present to you came under my observation about thirteen years ago. Since that time I have not had a second case, nor have I seen a physician in my section who has a similar case.

This child was about eighteen months old when I was first called to treat him. His parents were very poor and his surroundings and sanitary conditions were in keeping with their poverty. He had been sick at least two or three weeks under the treatment of his parents and friends before they decided to secure medical aid. So, on my first visit, I was confronted with one of those pathetic cases resembling a case of long marasmus. The history of the child's illness up to this time was very unsatisfactory. About all I could elicit from the child's mother was that the child's sickness began with stomach trouble, vomited very often, and had fallen off very much.

After carefully studying and observing this case for several days, his almost constant vomiting gave me no little worry. Constipation and marked distention of the abdomen were very much in evidence and it was with effort and difficulty that we could get any bowel movement at all. After treating this child for nearly a week with absolutely no success I decided to get help. So, during the following week, I called in some of the best physicians in my section of both races. I believe an effort was made to carry out every suggestion made by the consul-

tants but, in spite of all that, the child continued to grow worse.

A few mornings later, to my great surprise and alarm, I was informed that a hole had burst in the child's belly and his bowels were passing through it. Upon examination I found a rupture through the umbilicus directly into the gut. I again called in my consultants. After going over the case very carefully, we unanimously decided that to allow this child to die in peace was the best thing. This case created considerable interest among the physicians in our city and many asked to see it. Being a young physician, I felt rather flattered at having a case so many desired to see. Not one doctor, who saw it, offered a spark of hope for the child nor offered a suggestion as to treatment. Laparotomy was mentioned, but on account of the emaciated condition and lowered vitality of the child this course was decided ill advised as the little fellow would certainly die on the table. We, therefore, finally decided to allow the child to die a natural death.

As soon as the rupture occurred, the distention in the abdomen disappeared and fecal matter was almost constantly escaping through the opening. The only line of treatment followed was a dressing snugly applied over the rupture and fastened down with adhesive straps. No therapeutic agents were given. Our

liquid diet was continued. For a week or so the child's condition remained practically unchanged. Bowel movements per rectum were almost suspended as most of the intestinal contents would escape through the artificial opening. The following two or three weeks noted some improvement in the child's general condition and the rectal evacuation of the bowel was gradually being established again.

To our great satisfaction, we observed in changing the dressings from time to time that this opening was getting smaller. At the end of three months the rupture had completely closed. A year later this same child was almost in perfect health. As this boy lived not very far from me I saw him almost daily until about a year ago when he moved to Norfolk. I am glad to report, when last seen, he was well and rapidly entering into manhood.

In closing this paper we cannot fail to appreciate the generosity of nature in cementing the gut to the abdominal wall before the rupture, thus preventing the intestinal contents from escaping into the abdominal cavity and setting up a fatal infection. Most of my consultants predicted this. Another interesting fact in this case is that the obstruction disappeared with the closure of the rupture, and the bowel has acted normally ever since.